

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-44. (Cancelled).

45. (New) A method for providing treatment therapy for a nervous system disorder, comprising:

- (a) detecting a nervous system disorder based on signals received from a set of electrodes;
- (b) providing stimulation responsive to the nervous system disorder to a first electrode in the set of electrodes for a first interval, wherein the first electrode is blanked during the stimulation;
- (c) in response to the providing of stimulation, determining that a first signal from a second electrode in the set of electrodes includes an artifact; and
- (d) blanking the second electrode for a second interval, wherein at least one electrode in the set is not blanked.

46. (New) The method of claim 45, wherein the set of electrodes includes a grid of electrodes.

47. (New) The method of claim 46, further comprising:

- (e) in response to the providing of stimulation in (c), blanking a third electrode based on the proximity of the third electrode to the first electrode.

48. (New) The method of claim 47, wherein the first and third electrodes are on the grid of electrodes.

49. (New) The method of claim 45, wherein the blanking in (d) comprises

- (i) holding a channel ratio associated with the second electrode constant during the second interval of blanking.

50. (New) The method of claim 45, wherein the blanking of the first electrode is hardware blanking and the blanking of the second electrode is software blanking.

51. (New) The method of claim 45, wherein the second interval of blanking comprises a first period of time from when the determining in (c) is made until the end of the stimulation period and a second period of time after the stimulation period ends.

52. (New) The method of claim 51, wherein the second period of time is predetermined.

53. (New) The method of claim 45, wherein the first electrode is one of at least two electrodes that the stimulation signal is sent to and the at least two electrodes are both blanked during the stimulation.

54. (New) A method for providing treatment therapy for a nervous system disorder, comprising:

- (a) detecting a nervous system disorder based on signals received from a set of electrodes;

- (b) providing stimulation responsive to the nervous system disorder to a first electrode in the set of electrodes, wherein the first electrode is blanked for a first interval in response to the stimulation;

- (c) determining a signal received from a second electrode in the set of electrodes includes an artifact caused by the responsive stimulation; and

- (d) in response to the determination, blanking the second electrode in the set of electrodes for a second interval, wherein at least one electrode in the set of electrodes is not blanked.

55. (New) The method of claim 54, wherein the blanking of the first electrode is hardware blanking and the blanking of the second electrode is software blanking.

56. (New) The method of claim 54, wherein the first and second electrodes are on a grid of electrodes.

57. (New) The method of claim 54, further comprising:

(e) in response to the providing of stimulation, blanking a third electrode.

58. (New) The method of claim 57, wherein the blanking in (e) comprises:

- (i) determining that a signal received from the third electrode will include an artifact when a stimulation signal is applied to the first electrode; and
- (ii) blanking the third electrode automatically when stimulation is applied to the first electrode.

59. (New) The method of claim 54, wherein channel ratios associated with the first and second electrodes prior to the start of the respective blanking intervals are maintained until the end of the respective blanking intervals.

60. (New) A computer readable medium having computer readable instructions for performing steps comprising:

- (a) detecting a nervous system disorder based on signals received from a set of electrodes;
- (b) providing stimulation instructions to cause a stimulation pulse responsive to the detected nervous system disorder to be sent to a first electrode in the set of electrodes, wherein the instructions include a first blanking instruction that causes the first electrode to be blanked for a first interval;
- (c) determining a signal received from a second electrode in the set of electrodes includes an artifact caused by the responsive stimulation; and
- (d) in response to the determination in (c), providing a second blanking instruction that causes the second electrode in the set of electrodes to be blanked for a second interval, wherein at least one electrode in the set of electrodes is not blanked.

61. (New) The computer readable medium of claim 60, wherein step (b) comprises:
- (i) holding a channel ratio associated with the first electrode constant during the first interval of blanking.
62. (New) The computer readable medium of claim 61, wherein step (d) comprises:
- (i) holding a channel ratio associated with the second electrode constant during the second interval of blanking.
63. (New) The computer readable medium of claim 60, wherein the first blanking instruction in step (b) comprises:
- (i) instructing a component to physically disconnect the first electrode.
64. (New) The computer readable medium of claim 60, wherein the instructions further comprise the step:
- (e) in response to the stimulation instructions provided in (b), providing a third blanking instruction to cause signals from a third electrode from the set of electrodes to be ignored for a third interval.
65. (New) The computer readable medium of claim 64, wherein the providing of the third blanking instruction in (e) is based on the value of the stimulation pulse being provided to the first electrode.
66. (New) The computer readable medium of claim 60, wherein steps (c) and (d) are done for a third electrode.